

What is claimed is:

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1. A method of determining an optimum tracking offset value for an optical disk drive, comprising:

- 10 a step of determining a tracking offset value set of a plurality of tracking offset values;
- a step of recording a first test signal in a first frame set of a plurality of frames using a write power and said tracking offset value set, each frame being recorded by a corresponding tracking offset value;
- 15 a step of reproducing said first test signal recorded in said first frame set;
- a step of calculating first measured characteristic values corresponding to each tracking offset value included in said tracking offset value set;
- 20 a step of obtaining tracking offset characteristics by interpolating said first measured characteristic values; and
- a step of determining an optimum tracking offset value that gives a maximum value in said tracking
- 25 offset characteristics.

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2. The method as claimed in claim 1, wherein said first frame set comprises a plurality of frame groups, each including a plurality of frames; said steps of recording said first test

signal, reproducing said first test signal, and  
calculating first measured characteristic values are  
repeated for each of said frame groups;

5       said first measured characteristic values  
obtained for each of said frame groups are averaged for  
each tracking offset value; and

      said tracking offset characteristics are  
obtained using the average measured characteristic values.

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      3. The method as claimed in claim 2, wherein  
      said frames included in said frame groups  
15 are located at different angular position in said optical  
disk; and

      said frames corresponding to each tracking  
offset value in different frame groups are located at  
different angular position in said optical disk.

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      4. The method as claimed in claim 1, further  
25 comprises:

      a step of determining a target  
characteristic value suitable for said optical disk set in  
a rotative mode;

      a step of selecting a first laser power set  
30 of a plurality of laser powers;

      a step of recording a second test signal in  
a second frame set of a plurality of frames using said  
first laser power set, each of said frames being recorded

by a corresponding laser power included in said first laser power set;

a step of reproducing said second test signal recorded in said second frame set;

5 a step of calculating second measured characteristic values corresponding to each laser power included in said first laser power set;

a step of determining said write power corresponding to said target characteristic value by  
10 interpolating said second measured characteristic values;

a step of determining a second laser power set of a plurality of laser powers;

a step of recording a third test signal in a third frame set of a plurality of frames using said  
15 optimum tracking offset value and said second laser power set, each of said frames being recorded by a corresponding laser power included in said second laser power set;

a step of reproducing said third test signal recorded in said third frame set;

20 a step of calculating third measured characteristic values corresponding to each laser power included in said second laser power set; and

a step of determining an optimum write power corresponding to said target characteristic value by  
25 interpolating said third measured characteristic values.

30 5. The method as claimed in claim 4, further comprising:

a step of storing said optimum tracking offset value in memory; and

a step of storing said optimum write power  
in said memory.

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6. The method as claimed in claim 4, wherein  
said laser powers included in said first  
laser power set are laser powers having a level increasing  
10 in 5 equal steps from a minimum value to a maximum value;  
said tracking offset values included in said  
tracking offset value set are determined by an initial  
value and a step, both depending on said rotative mode of  
said optical disk; and  
15 said laser powers included in said second  
laser power set are said write power and four laser powers,  
two increasing in an equal step from said write power and  
two decreasing in said equal step from said write power.

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7. The method as claimed in claim 1, wherein  
said tracking offset characteristics are obtained by  
25 approximating with a quadratic curve.

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8. An optical disk drive, comprising:  
a motor that rotates an optical disk in a  
rotative mode;  
an optical pickup that writes and reads a

test signal on said optical disk;

a controller that determines a tracking  
offset value set of a plurality of tracking offset values,  
records a first test signal in a first frame set of a  
5 plurality of frames using a write power and said tracking  
offset value set, each frame being recorded by a  
corresponding tracking offset value, reproduces said first  
test signal recorded in said first frame set, calculates  
first measured characteristic values corresponding to each  
10 tracking offset value included in said tracking offset  
value set, obtains tracking offset characteristics by  
interpolating said first measured characteristic values,  
and determines an optimum tracking offset value that gives  
a maximum value in said tracking offset characteristics.

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9. The optical disk drive as claimed in  
20 claim 8, wherein

said controller further determines a target  
characteristic value suitable for said optical disk set in  
a rotative mode, selects a first laser power set of a  
plurality of laser powers, records a second test signal in  
25 a second frame set of a plurality of frames using said  
first laser power set, each of said frames being recorded  
by a corresponding laser power included in said first  
laser power set, reproduces said second test signal  
recorded in said second frame set, calculates second  
30 measured characteristic values corresponding to each laser  
power included in said first laser power set, and  
determines said write power corresponding to said target  
characteristic value by interpolating said second measured

characteristic values, and

5 determines a second laser power set of a  
plurality of laser powers, records a third test signal in  
a third frame set of a plurality of frames using said  
10 optimum tracking offset value and said second laser power  
set, each of said frames being recorded by a corresponding  
laser power included in said second laser power set,  
reproduces said third test signal recorded in said third  
frame set, calculates third measured characteristic values  
15 corresponding to each laser power included in said second  
laser power set, and determines an optimum write power  
corresponding to said target characteristic value by  
interpolating said third measured characteristic values.

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